



# The Universe

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SCHOLASTIC

A FIRST DISCOVERY BOOK



# THE UNIVERSE

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and Jean-Pierre Verdet  
Illustrated by Donald Grant



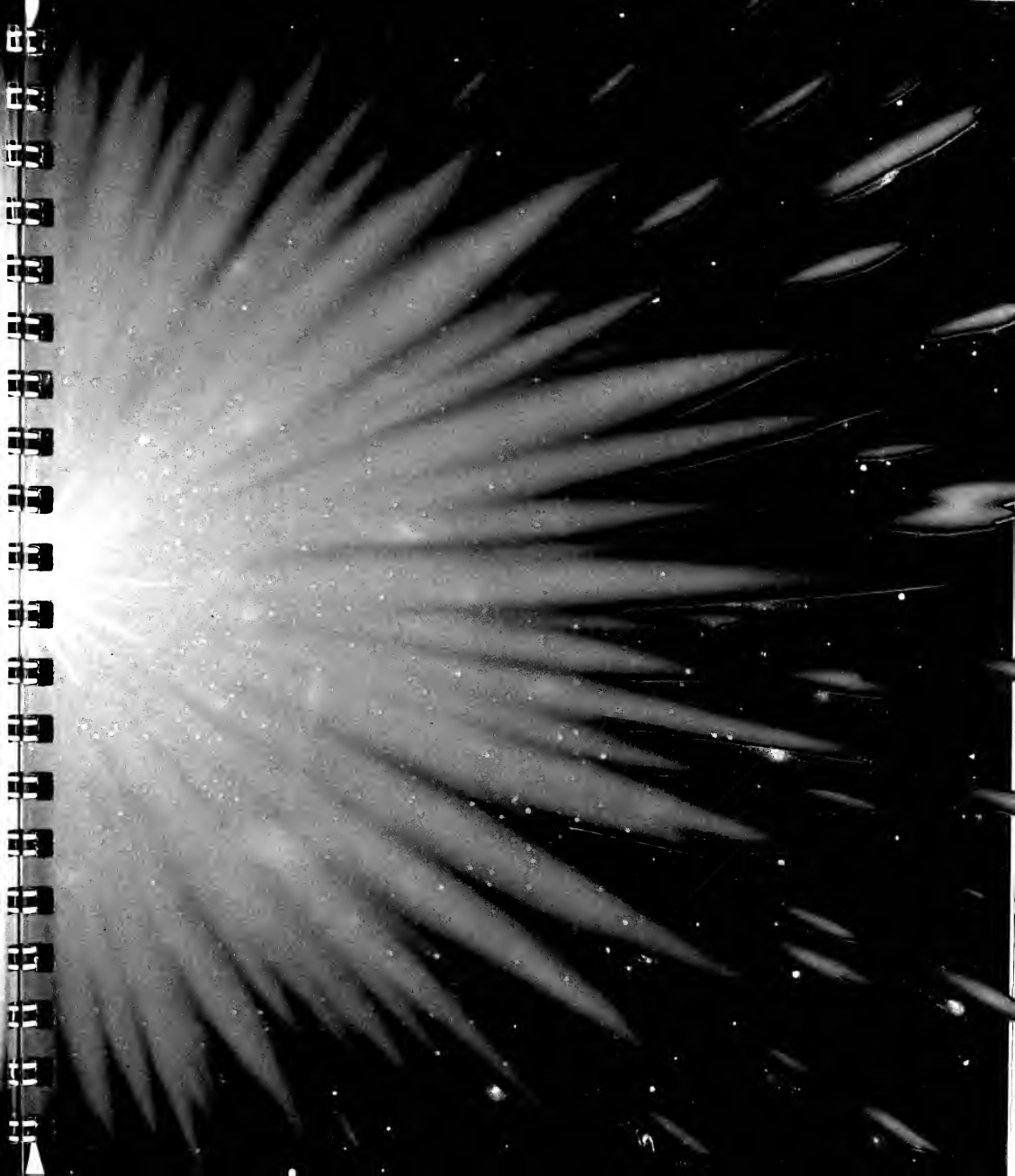
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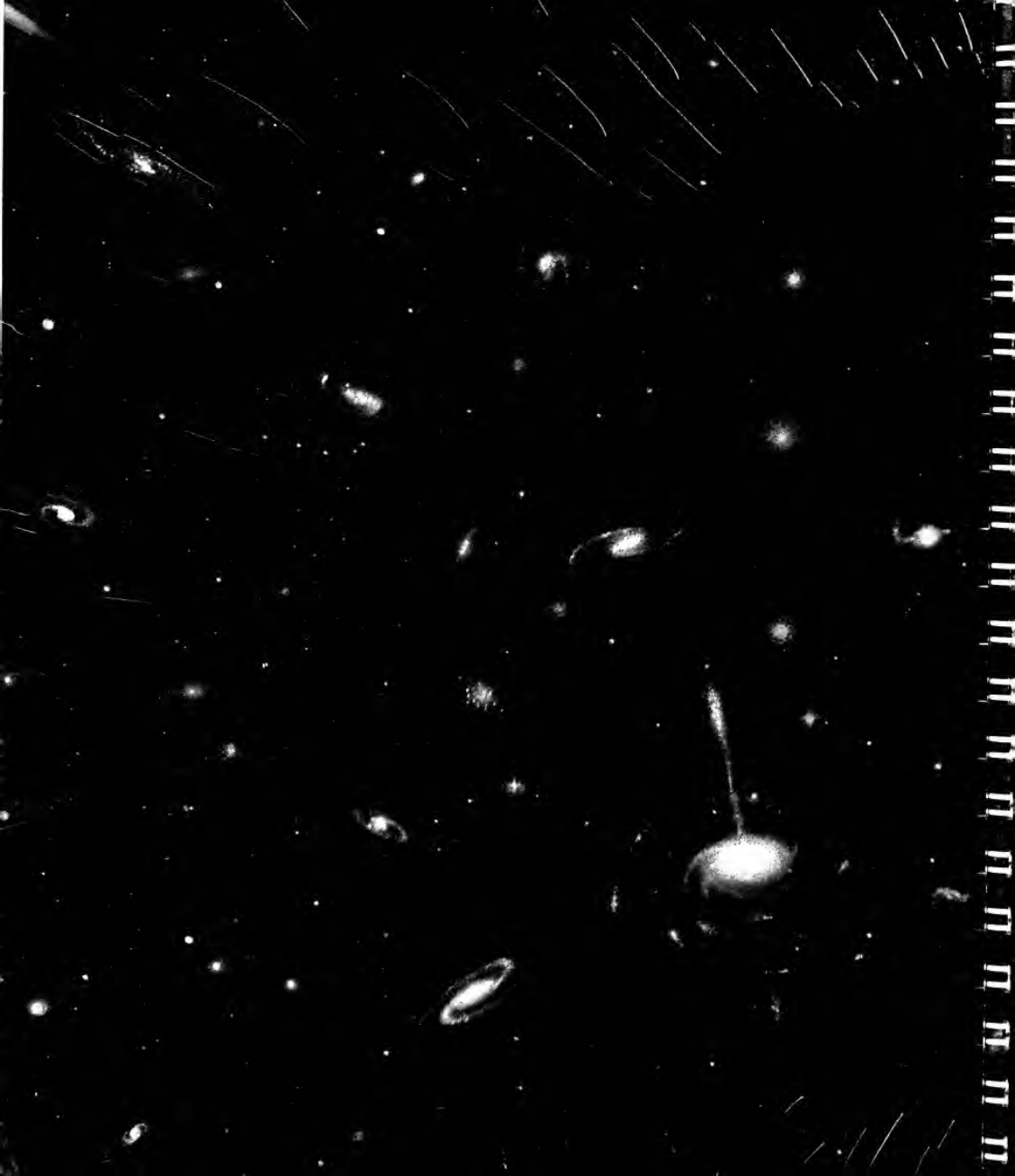
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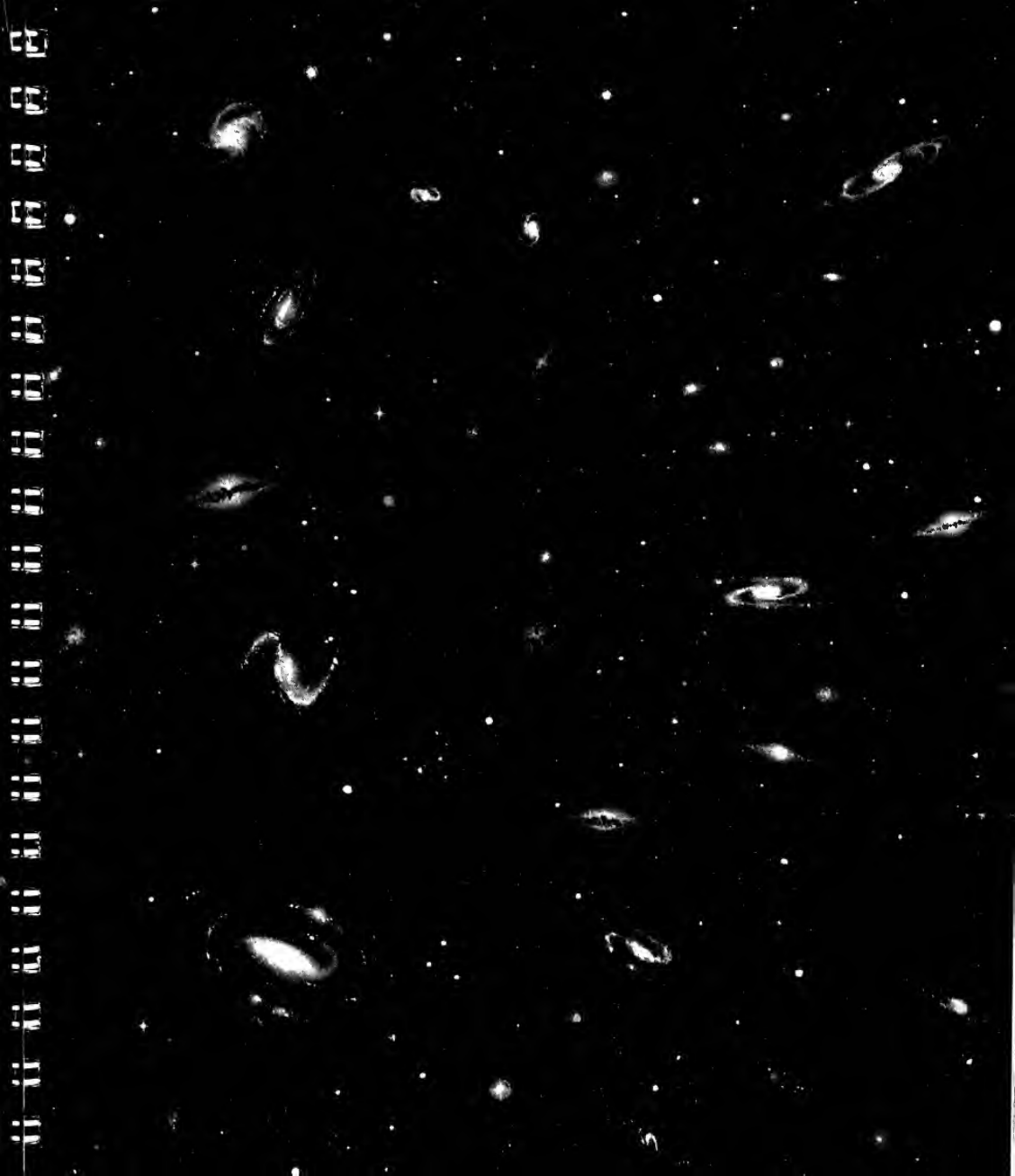
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Many astronomers think that our universe was created a very, very long time ago in a gigantic explosion called the Big Bang. Turn the page to see our universe as it exists today.









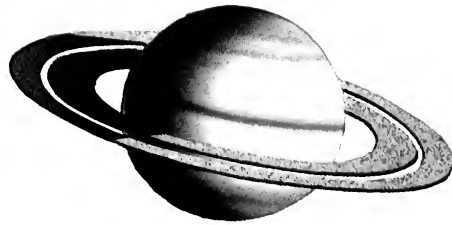
Pluto



Neptune



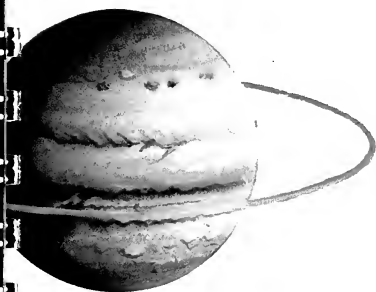
Uranus



Saturn



Here are the nine planets of  
the Solar System:



Jupiter



Mars



Venus



Earth

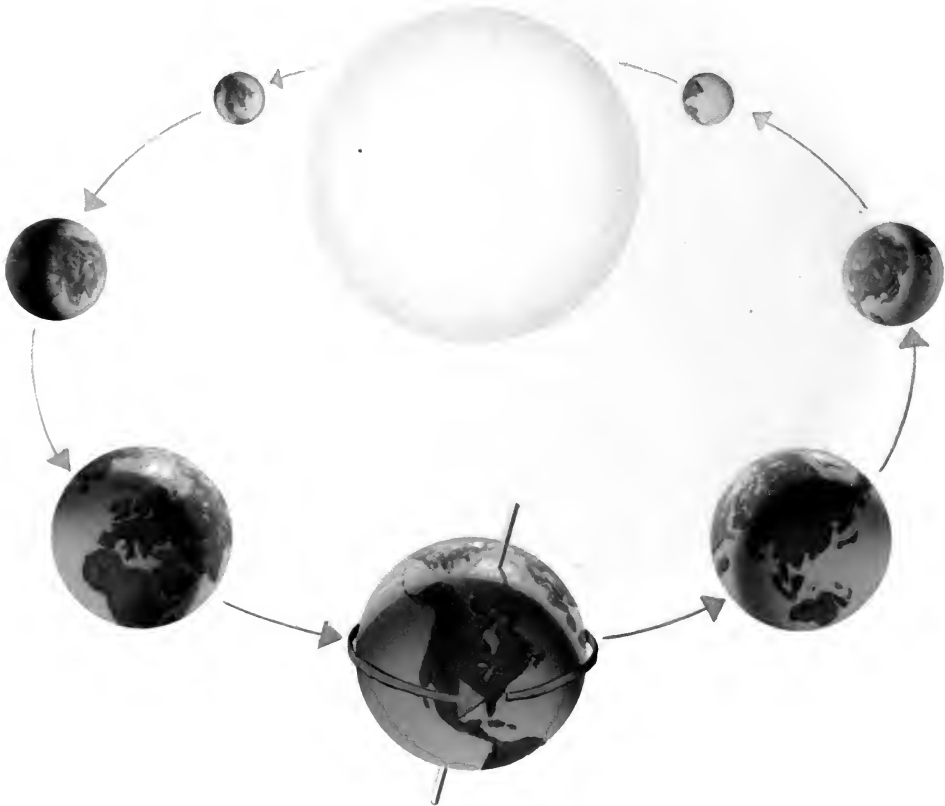


Mercury

Sun

Not to Scale

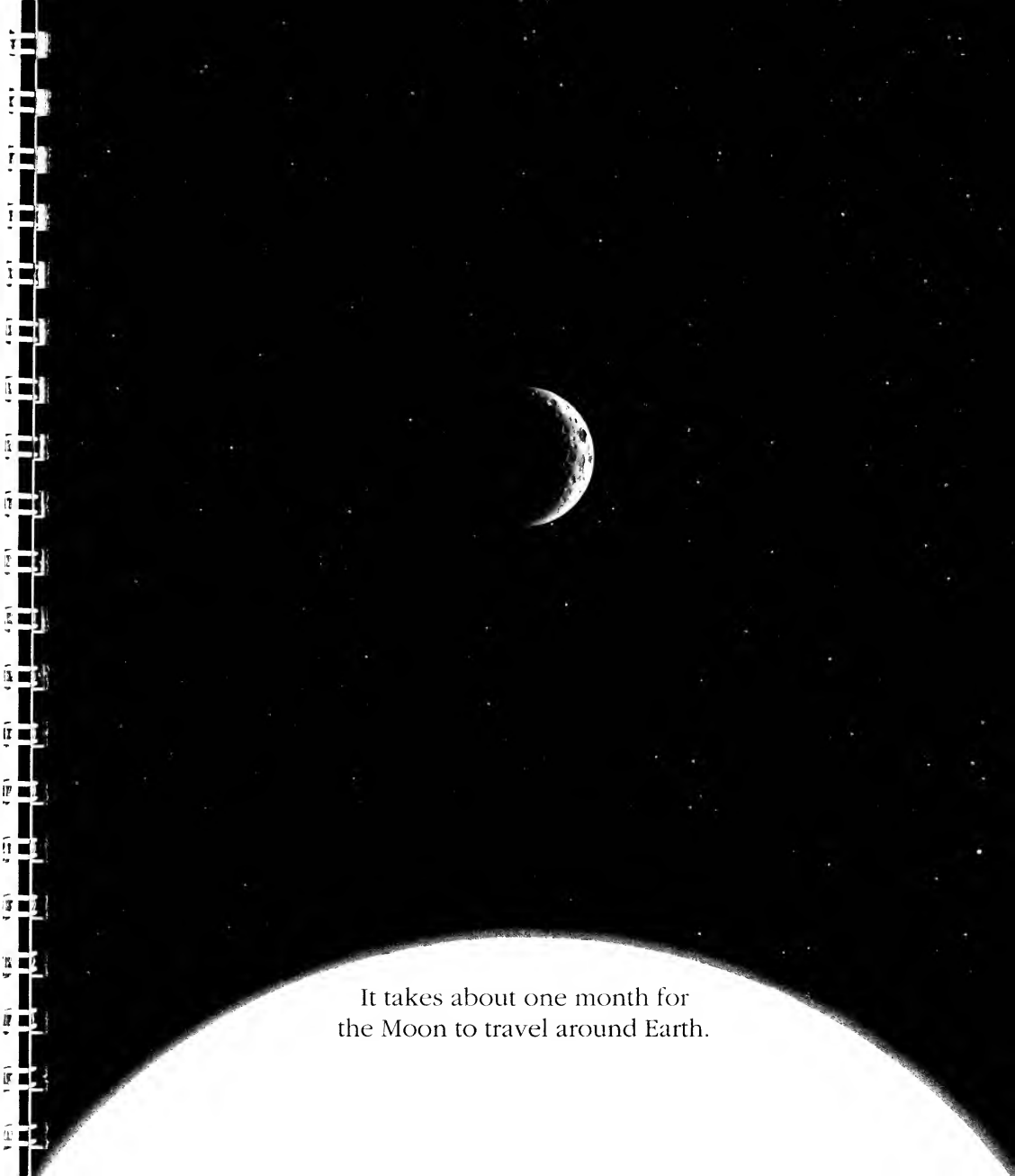
It takes one year for Earth to travel around the Sun. It takes one day or twenty-four hours for Earth to spin around.



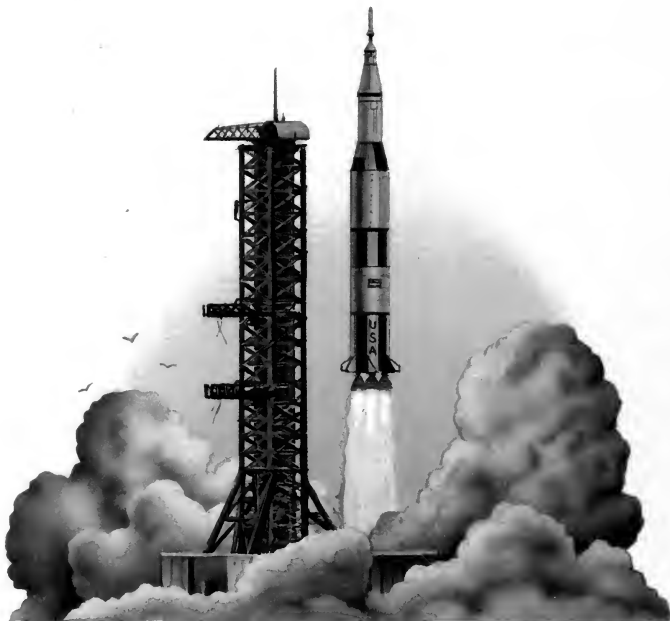


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It takes about one month for  
the Moon to travel around Earth.



From 1969 to 1972, Americans sent  
astronauts to explore the surface  
of the Moon.

The Moon has no air. The surface is covered with high mountains and deep craters.





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The Moon has no air. The surface is covered with high mountains and deep craters.



Astronauts traveled on foot and in lunar rovers (or moon buggies) while on the Moon. They brought back hundreds of pounds of moon rocks.

Our Earth is made up of layers:  
crust, mantle, outer and inner core.



Mars, Venus, and Mercury are rocky.

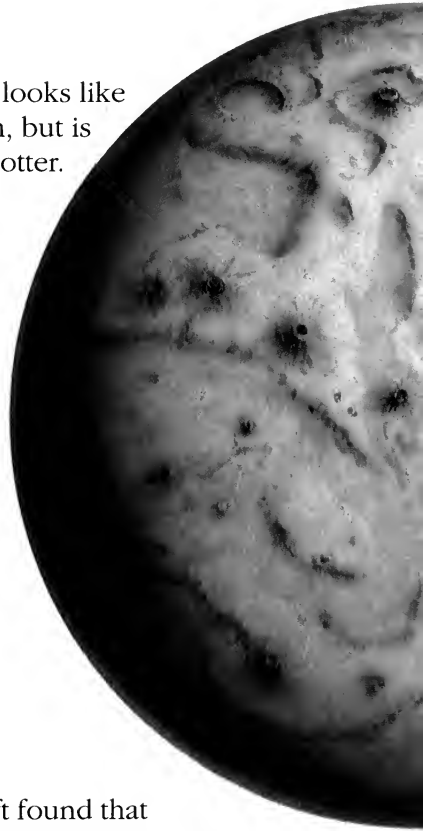


Mercury looks like the Moon, but is much hotter.

Mars has the deepest canyon and the highest mountain known in the solar system.



The Magellan spacecraft found that underneath thick, poisonous clouds, the surface of Venus is marked with volcanoes.



Jupiter is the biggest planet.  
It is made of gases.



The *Voyager I* spacecraft discovered  
that Jupiter has faint rings.

Saturn's rings  
are mostly  
chunks of ice.

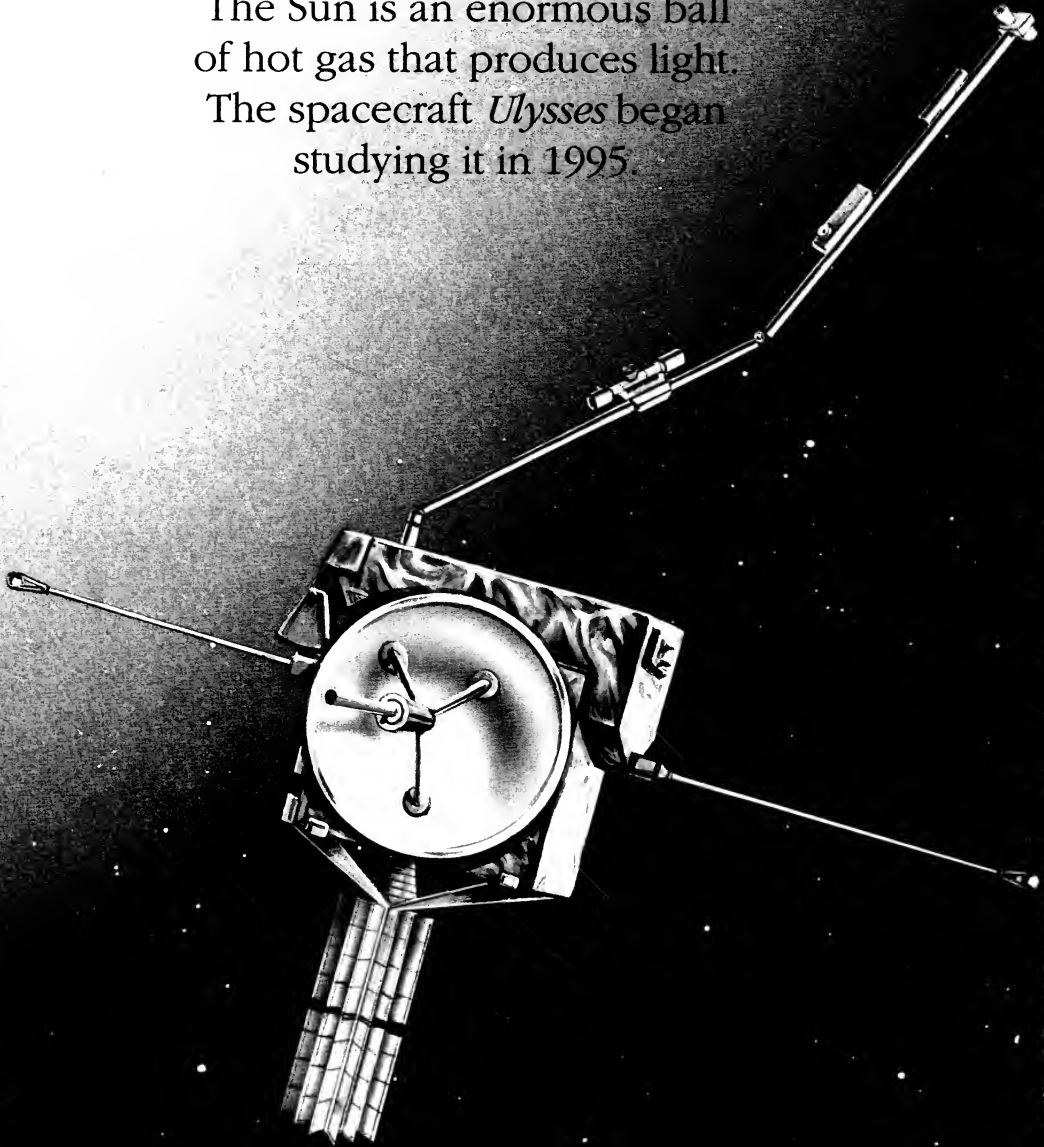


Uranus is made of gases that make  
it blue-green, while Neptune's  
gases make it blue. Neptune has  
the strongest winds of any planet.

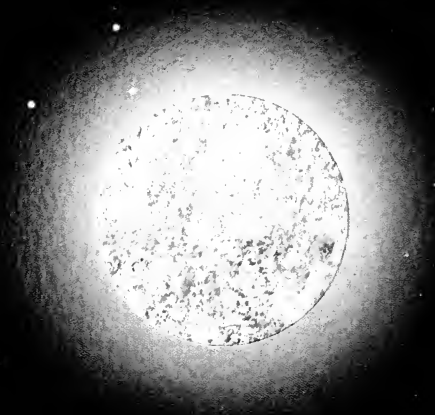


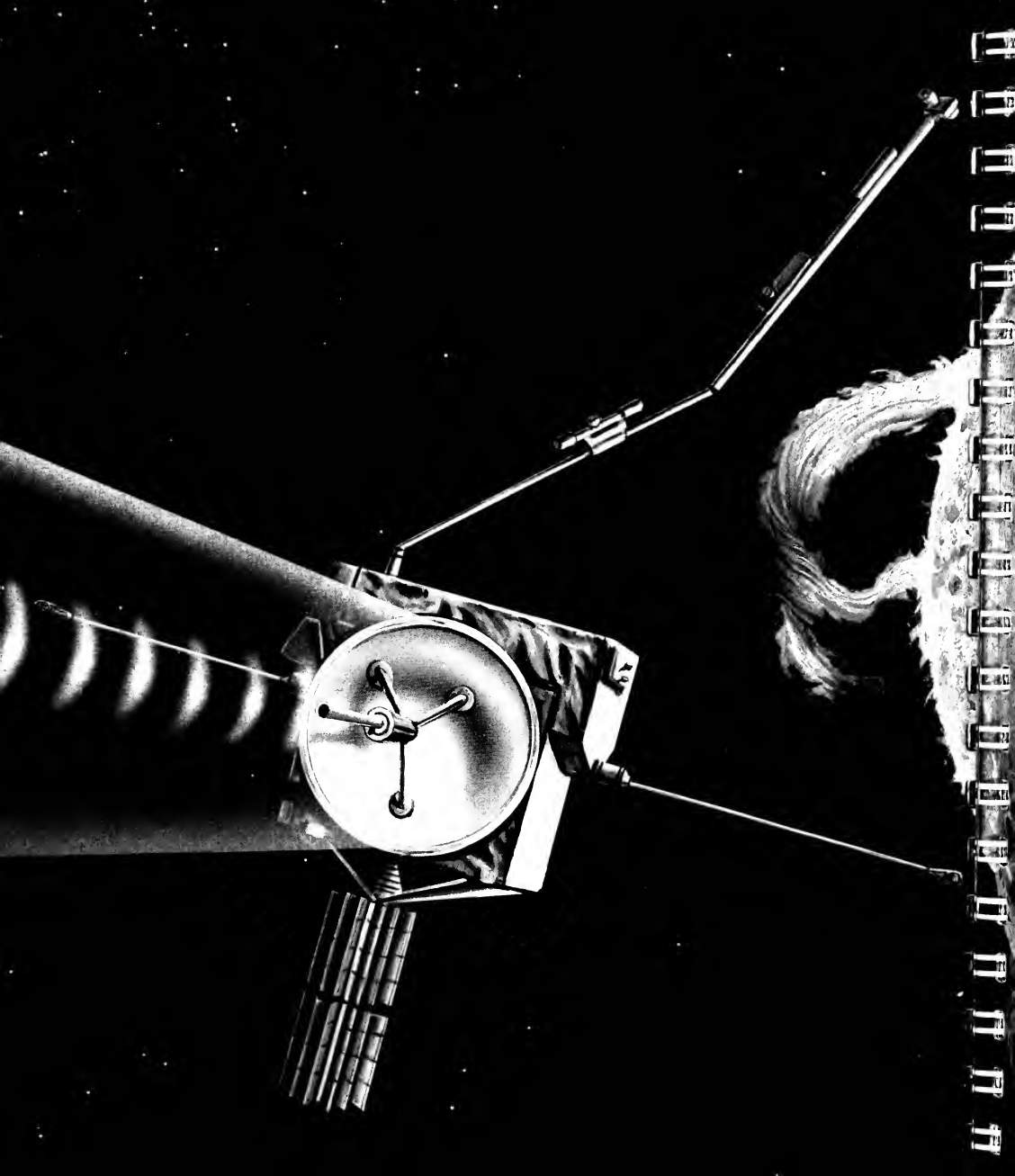
Pluto is the smallest planet.

The Sun is an enormous ball  
of hot gas that produces light.  
The spacecraft *Ulysses* began  
studying it in 1995.

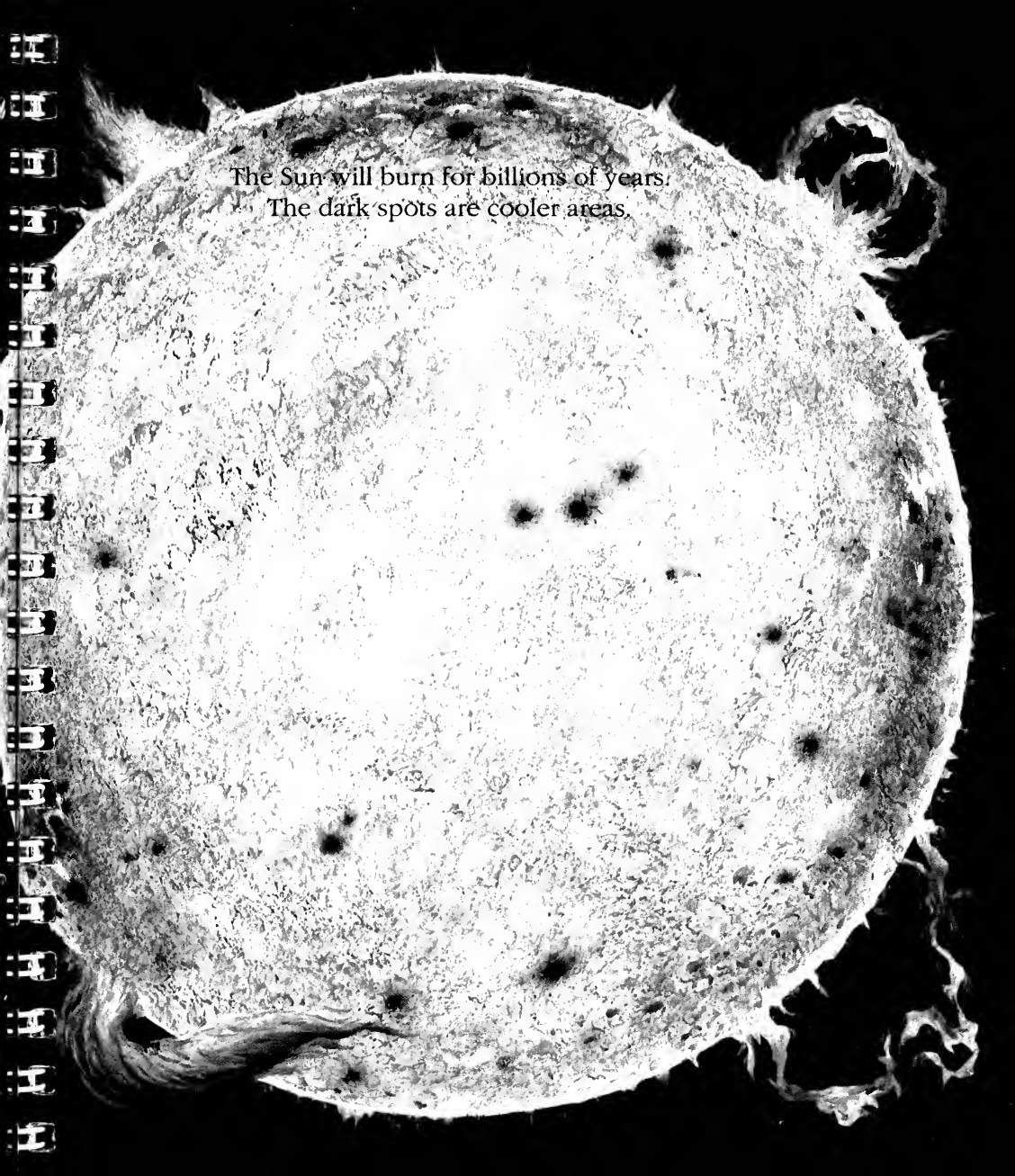


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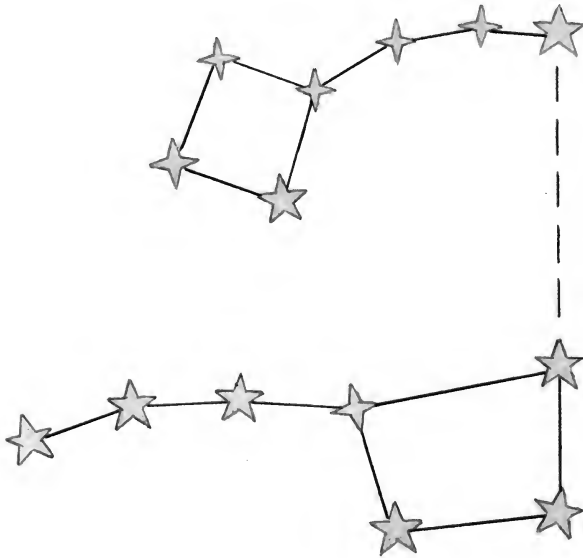




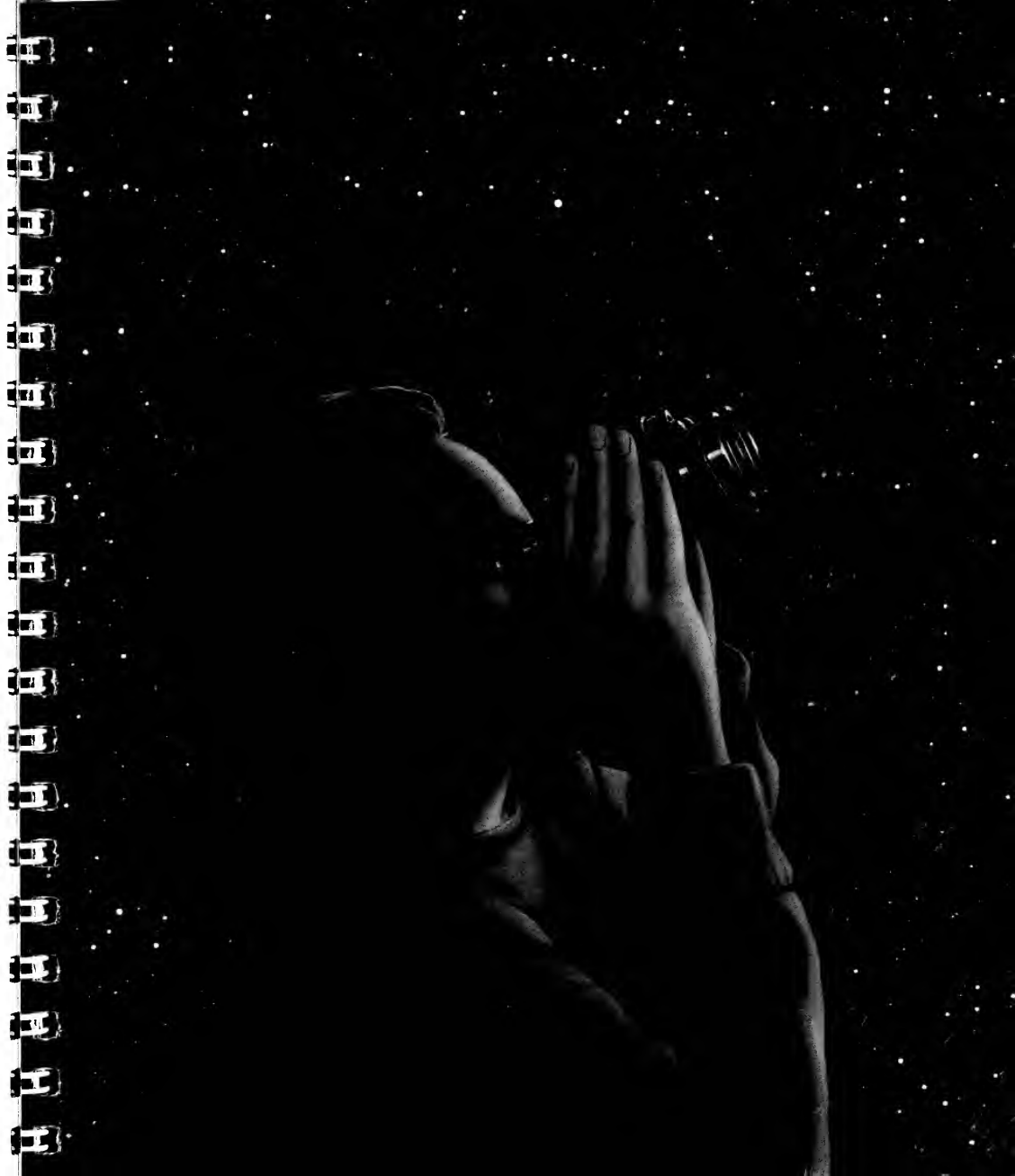


The Sun will burn for billions of years.  
The dark spots are cooler areas.

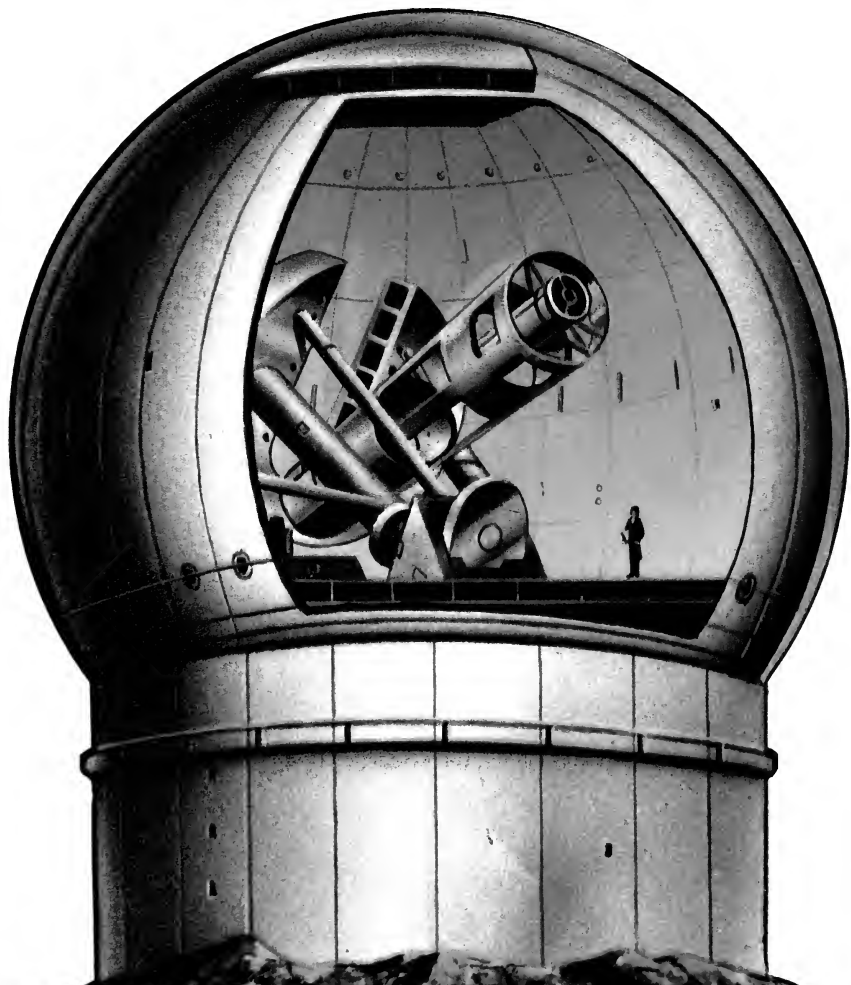
The naked eye can see thousands of stars. With binoculars, you can see hundreds of thousands. With a telescope, millions!

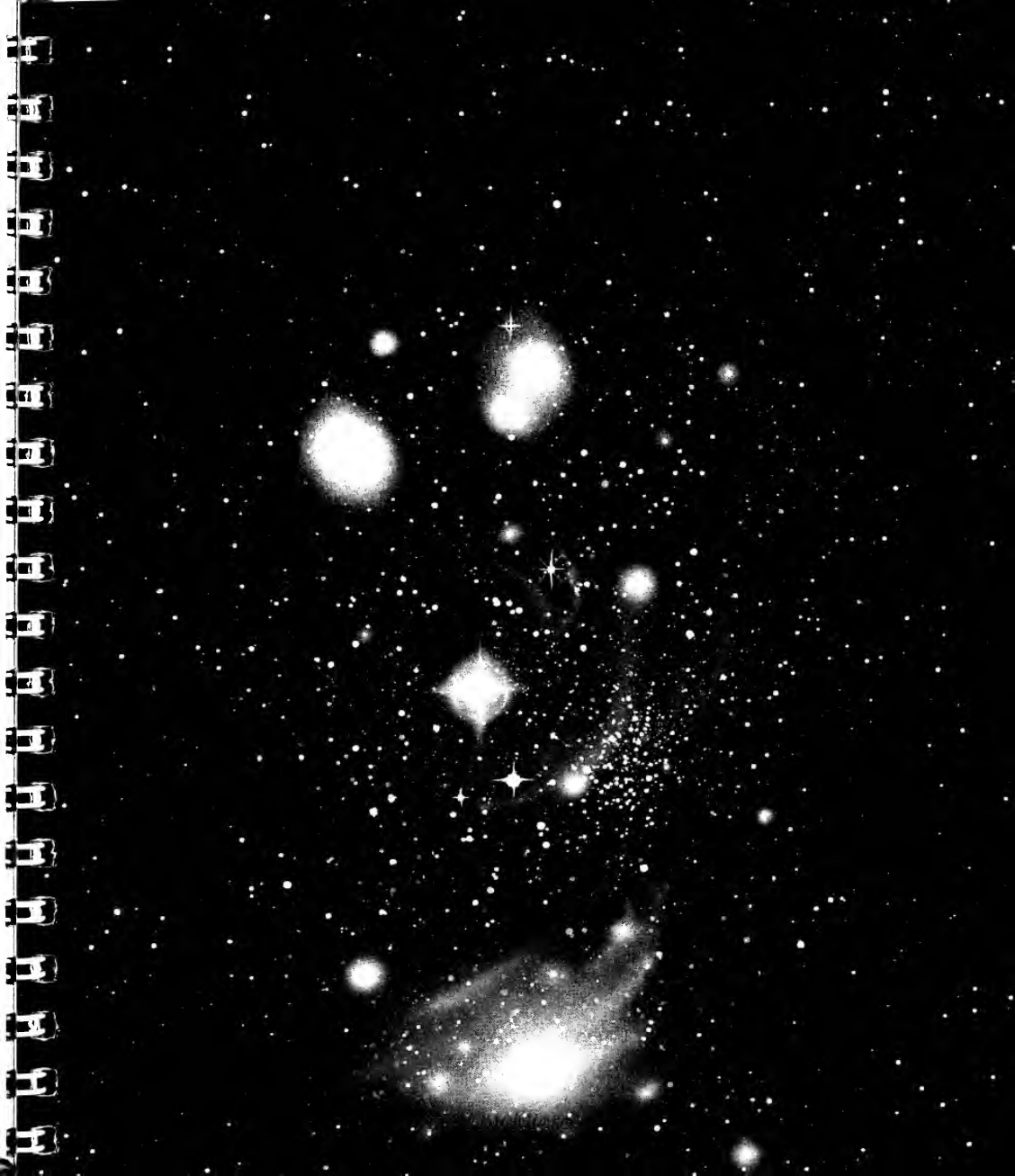


Look for the Big and Little Dippers. The handle star of the Little Dipper shows which way is north.



The naked eye can see thousands of stars. With  
binoculars, you can see hundreds of thousands.  
With a telescope, millions!



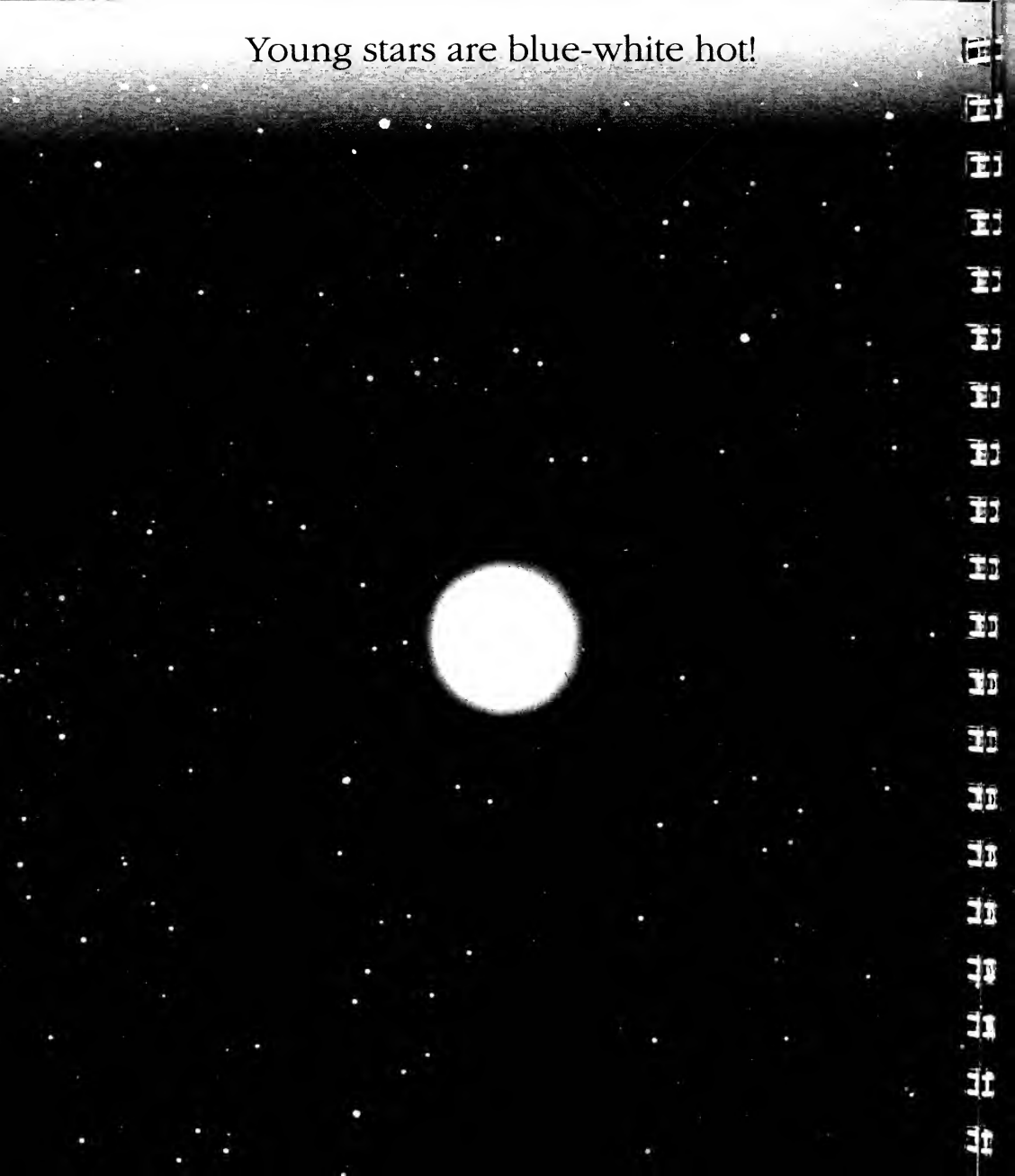




Galaxies are made of stars and dust. Galaxies come in many different shapes. Our galaxy, the Milky Way, is a spiral. Our Solar System is on the inside edge of one of the outer arms you see in this picture!

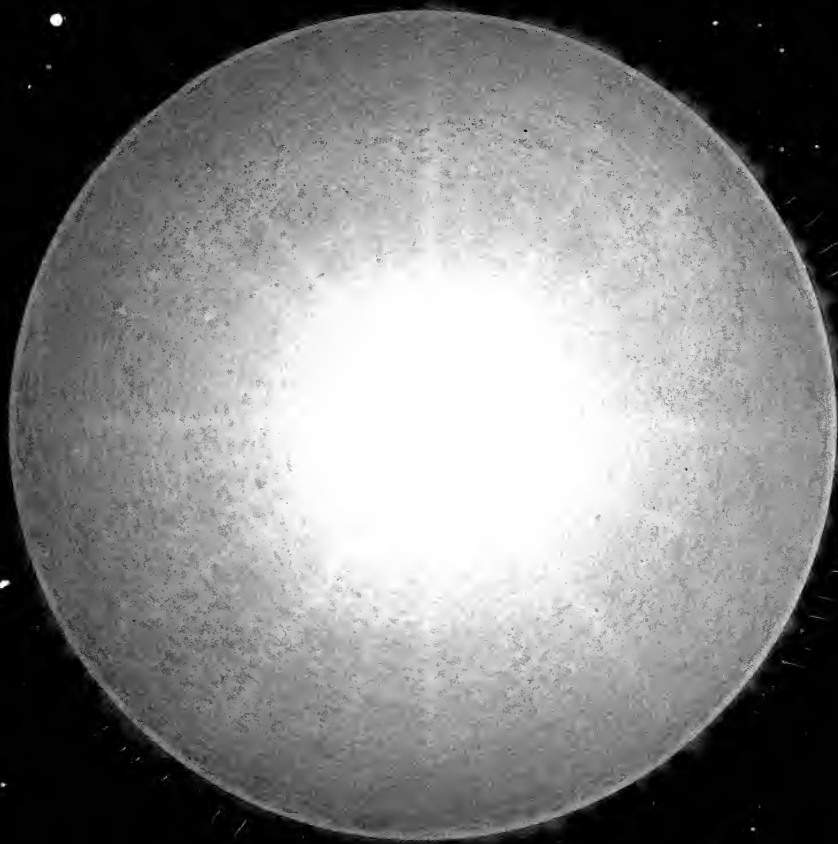
Our galaxy is one of  
billions in the universe.

Young stars are blue-white hot!

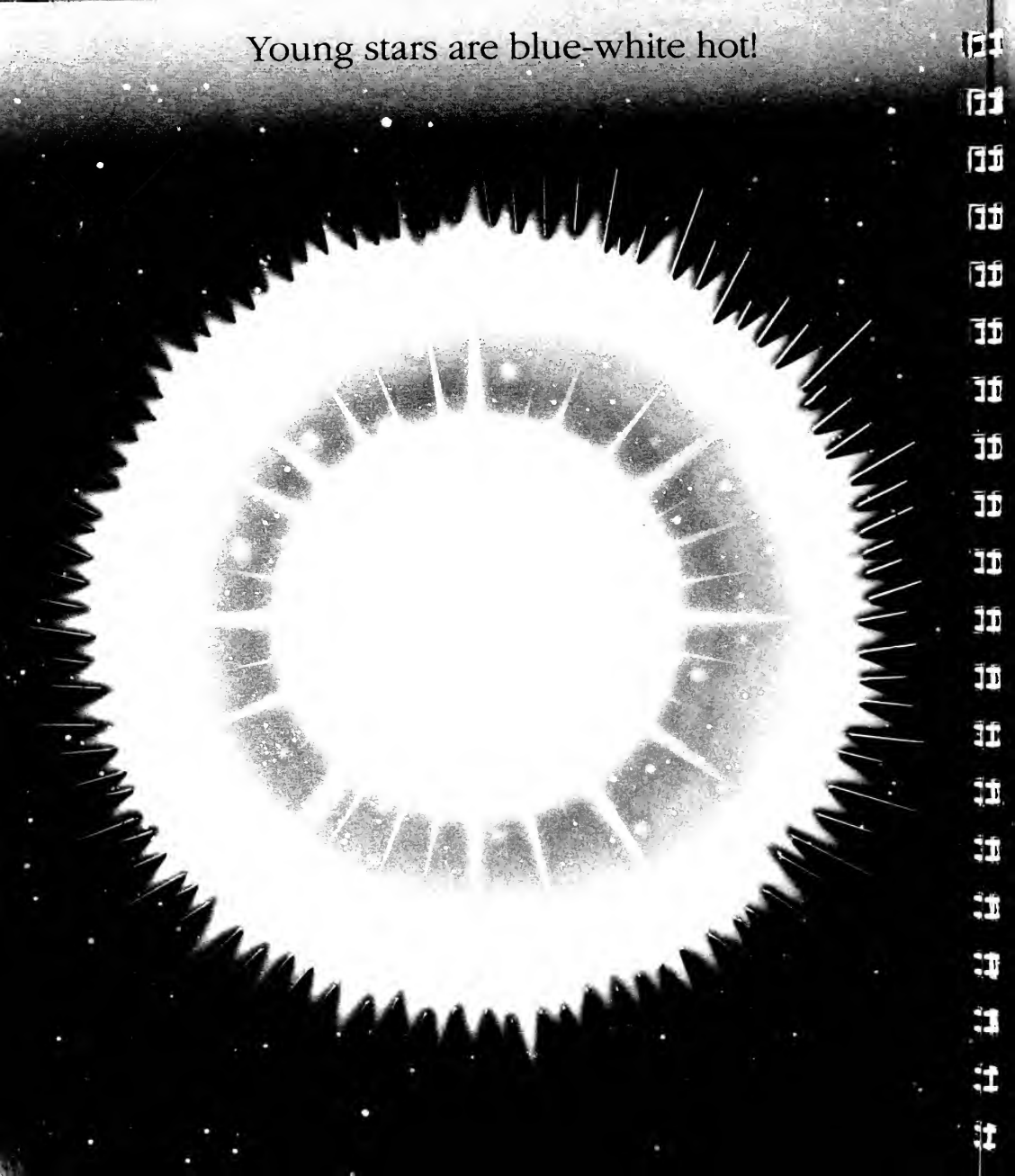




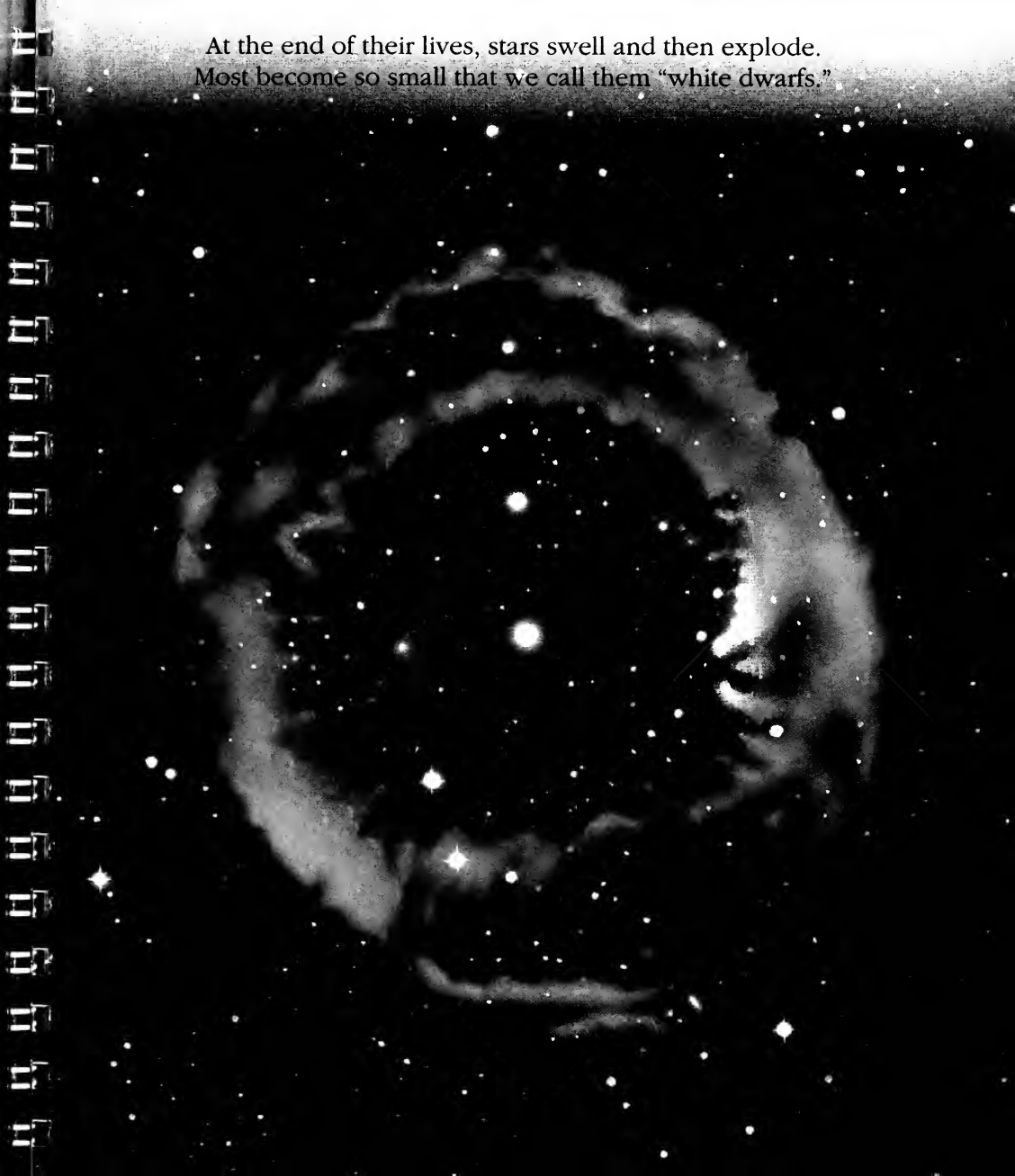
At the end of their lives, stars swell and then explode.  
Most become so small that we call them "white dwarfs."



Young stars are blue-white hot!



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# Some space history:



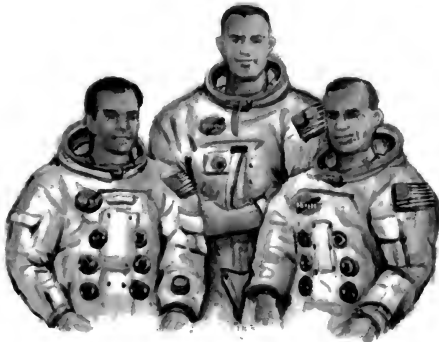
The Russian satellite *Sputnik* was the first man-made satellite (October 4, 1957).



The dog Laika was the first living being to orbit the Earth (November 3, 1957).



Yuri Gagarin, a Russian, was the first human to travel in space (April 12, 1961).

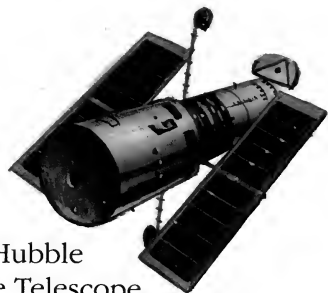


The American *Apollo* and Russian *Soyuz* met in space (July 17-19, 1975).

Neil Armstrong, Buzz Aldrin, and Michael Collins were the crew of *Apollo 11*, which went to the Moon (July 20, 1969).



Saturn V  
Moon rocket



The Hubble  
Space Telescope  
was sent into orbit  
(April 25, 1990).

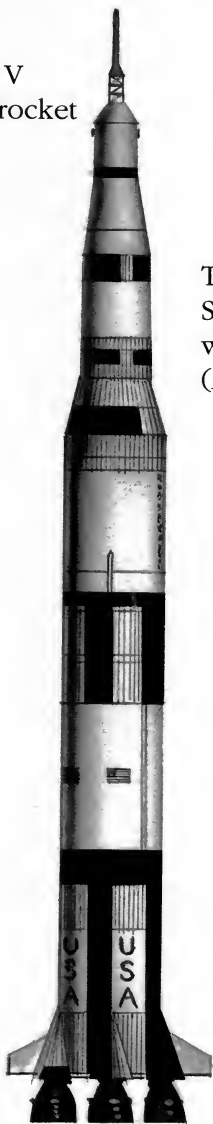
Russian  
*Soyuz A-2*



Atlas



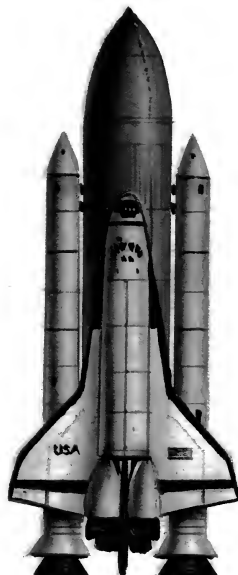
Titan II



European  
*Ariane*



American Space  
Transportation  
System (STS)



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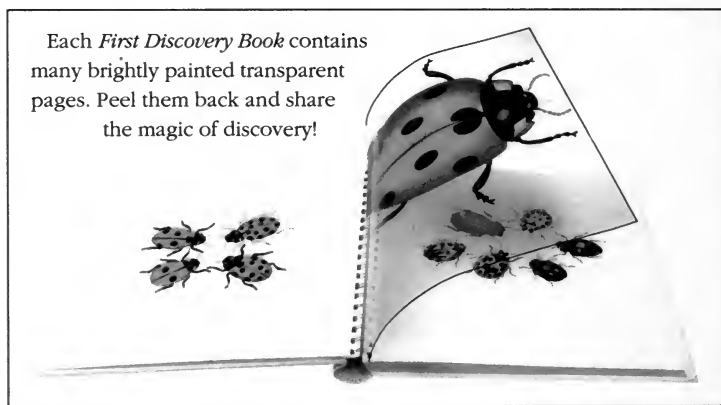
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